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CBRN PAPR

Chemical Agent Permeation and Penetration

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NIOSH/NPPTL Public Meeting
Hilton Garden Inn, Canonsburg, Pa

CBRN PAPR CWA Concept

CWA Test Parameters

- **Sarin (GB) and Mustard (HD) challenge vapor concentrations are equivalent to the CBRN APR standard**
- **SMARTMAN upper-torso manikin connected to a breathing machine**

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CWA Test Parameters

- **Battery will be installed for testing**
- **Use of alternate power supply allowed**
 - Longer life battery (minimum 10 hour life)
 - Electrical plug-in

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- **Sarin (GB):**
 - Vapor Challenge – 210 mg/m^3
 - Breakthrough – 0.044 mg/m^3 Peak
 $1.05 \text{ mg min/m}^3 \text{ Ct}$
 - Time Agent Generated = 30 minutes
 - Total Test Time = 8 hours

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- **Mustard (HD):**
 - Vapor Challenge 50 mg/m³
 - Liquid Challenge 0.43–0.86 ml
 - Breakthrough – 0.30 mg/m³ Peak
3.0 mg min/m³ Ct
 - Time Agent Generated = 30 minutes vapor;
liquid applied for last 2 hours
 - Total Test Time = 8 hours

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Summary- Test Considerations

- Accommodate use of alternate power supply
 - Longer life battery (minimum 10 hour life)
 - Electrical plug-in
- Determine placement of HD droplets for base assembly and accessories

CBRN PAPR CWA Concept

Summary- Timeline

- Develop Standard Test Procedures (May-June 04)
- Perform Verification Testing (August-September 04)